

Navajo Abandoned Uranium Mine

Site Screen Report

This form is for use at the site of abandoned uranium mines (AUM) located on Navajo Nation lands. Applicable sites include all mine and mine features that have or have not undergone reclamation by the Navajo Abandoned Mine Lands Reclamation Program, including features, adits, pits and waste piles. Applicable sites also include all AUM sites listed in the USEPA CERCLIS database, all sites listed in the 2008 AUM GIS Report issued by USACOE and USEPA, all AUM sites on allotment lands associated with the Navajo Nation, and any and all AUM sites not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands that may be impacting Navajo lands will need to be coordinated with the authorities appropriate to those lands.

The purpose of the form is to ascertain the status and location of the identified AUM site, and record all immediate site information associated with the mine site. Decisions and recommendations on what additional steps are needed will be provided on a separate document.

Ramco No. 20 AUM Site

Navajo AUM Western Region

Prepared by:

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Contract: W91238-06-F-0083

12767.063.599.1111

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Part I Site Identification, Location and Status**Site Names and ID numbers as applicable****Mine ID:** 153**Map ID:** W94**CERCLIS:** NNN000909080**Navajo Abandoned Mine Land Reclamation Program:** NA-0173; NA-0174; NA-0175**Local name / Aliases:** RAMCO No. 20; RAMCO #20**Chapter and local area:** Coalmine Mesa Chapter**County:** Coconino **State:** Arizona**Lat/Long:** 35.7355447295 N / -111.298784747 W**Nearby road and highway:** Indian Route 6730 **Local Post Office:** Cameron, AZ**Surface Land Status: check one or more and provide ownership and contact information below****Tribal Trust Land**☒**Public lands**☐**Private**☐**Tribal Fee Land**☐**Bureau of Land Mgmt**☐**Allotment**☐**State**☐**Fee land**☐**Subsurface Mineral Rights:**

No information on subsurface mineral rights ownership was found in the EPA/AUM Database.

Claim and operator information:

The mine site surface land status is classified as Tribal Trust Land. Historical documents showed the operator of the mine as the Rare Metals Corporation from 1956 to 1960. No additional ownership / lease information was identified in the EPA/AUM database.

Number of residential structures within 200 feet of mine: None**Estimated volume of mine waste onsite:** None

Part II Summary of radiological readings

Highest gamma radiation measurement:

83,416 counts per minute (cpm)

Describe any other radiological measurements:

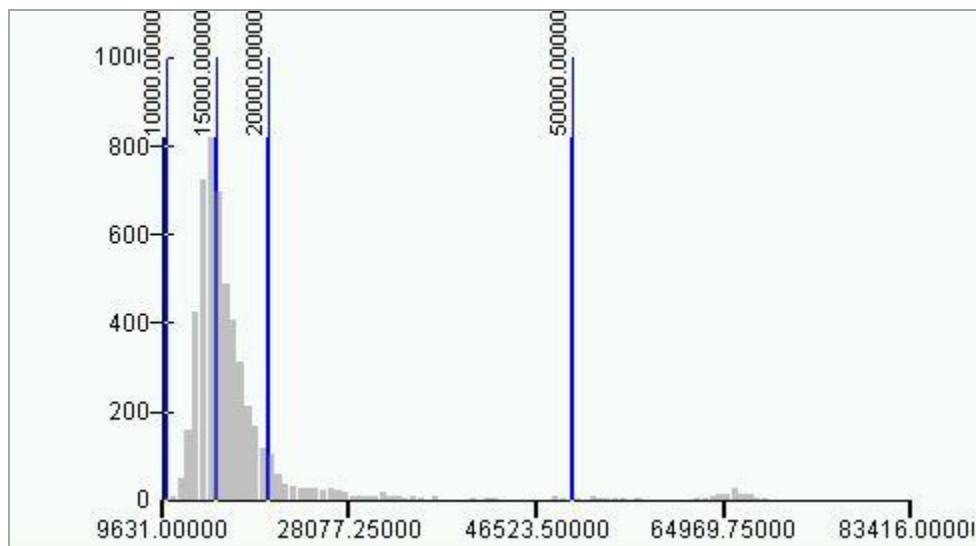
A total of 5,293 gamma radiation measurements were collected from the mine site, ranging from 9,631 cpm to 83,416 cpm. The measurements collected in the pond area were found mostly at background levels, with a few isolated hot spots with maximum levels of 85,000 cpm. The measurements are represented in Figures 1 and 2.

Background Readings: 10,524 cpm; 13,246 cpm; 13,166 cpm

Background Average: 12,312 cpm

Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	5293
Minimum:	9631.00000
Maximum:	83416.00000
Sum:	93641289.00000
Mean:	17691.53391
Median:	15242.00000
Standard Deviation:	9102.70465

Part III Status of Reclamation and Mine Waste

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed: Yes Waste Pile onsite: No

NAMLRP Project Number: NA-0173; NA-0174; NA-0175

NAMLRP Mine features: 1 Rim Strip / Pit

The following information was obtained from field observations collected during the 2010 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits

None

Waste Piles

None

Pits

None

Shafts

None

Other Debris and Mine Features

Former pond (from topo) and surrounding berm, breaced in the SW, some standing water in effluent area; erosion control berm area, shared with site 151

Part IV

Site observations and Environs

Observed Structures: list number of and describe human habitation status of structures at the following distances from mine:

0 to 200 feet: None

200 feet to 0.25 mile: None

Observed Public or commercial structure: list and describe all schools, clinics, Chapter Houses, places of business and any other structure used by members of the community at the following distances:

0 to 200 feet: None

200 feet to 0.25 mile: None

Levels measured around the perimeter(s) of the identified structure(s):

None

Observed water sources: list the number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine:

0 to 0.25 miles: Apparent pond area with drainage conduits, mostly dry, some standing water in breached/effluent area in the SW section.

0.25 miles to 4 miles: Little Colorado River Basin approximately 1 mi W of the site.

Sensitive environments: note and describe all sensitive environments located within visible range of the mine site, including: wetlands, endangered species, habitats and approximate locations of sites that may be under protection of the government of the Navajo Nation.

None observed

Known Site History: include information from interviews with Chapter officials and residents. Note information on mine ownership, type of mining operation, period of operation, known amount of production, and any other information as provided.

Ramco No. 20 mine consists of an area of 229,206.3 m². The mine was identified as being operational from 1956 to 1960. Historical documents showed the operator of the mine as the Rare Metals Corporation from 1956 to 1960. While operational, the mine had a total reported production volume of 22,642 tons. The Ramco No. 20, Ramco No. 22 (151), and Ryan No. 2 (152) sites reportedly mined from a single common pit. No other historical information or any additional ownership / lease information was identified in the EPA/AUM database.

Part V Response Action Summary

Summary of Evaluation Factors:

Accessibility:

Was the mine easily accessible to potential human activity?

Yes

Radiological Measurements:

Were any gamma radiation measurements collected at the mine greater than two times the site-specific background levels?

Yes

Waste Piles:

Were any unreclaimed waste piles observed at the mine with gamma radiation measurements greater than two times the site-specific background levels?

No

Structures:

Were any structures observed within 200 feet of the mine?

No

Potential Drinking Water Sources:

Were any potential drinking water sources observed within 4 miles of the mine?

Yes

Reclamation:

Was the mine reported to be previously reclaimed, or did the mine appear to be reclaimed?

Yes (erosion control berm)

Part VI Photos



Photo 1. Ramco No. 20 mine site



Photo 2. Ramco No. 20 mine site, pond area



Photo 3. Ramco No. 20 mine site, pond area



Photo 4. Ramco No. 20 mine site, pond area, standing water in effluent channel



Photo 5. Ramco No. 20 mine site, pond area cement barrier/rip rap



Photo 6. Ramco No. 20 mine site, gamma reading collection



Photo 7. Ramco No. 20 mine site



Photo 8. Ramco No. 20 mine site, berm shared with site #151

Part VII Contacts Reports and InformationName: Stanley Edison (928) 871-6861Eugene Esplain (928) 871-7331Title or official role (if any): Navajo EPA Superfund ProgramAddress: PO Box 2946, Window Rock, AZ 86515Information provided: Lead Regulatory Agency

Name: _____

Title or official role (if any): _____

Address: _____

Telephone number: _____

Information provided: _____

Name: _____

Title or official role (if any): _____

Telephone number: _____

Information provided: _____

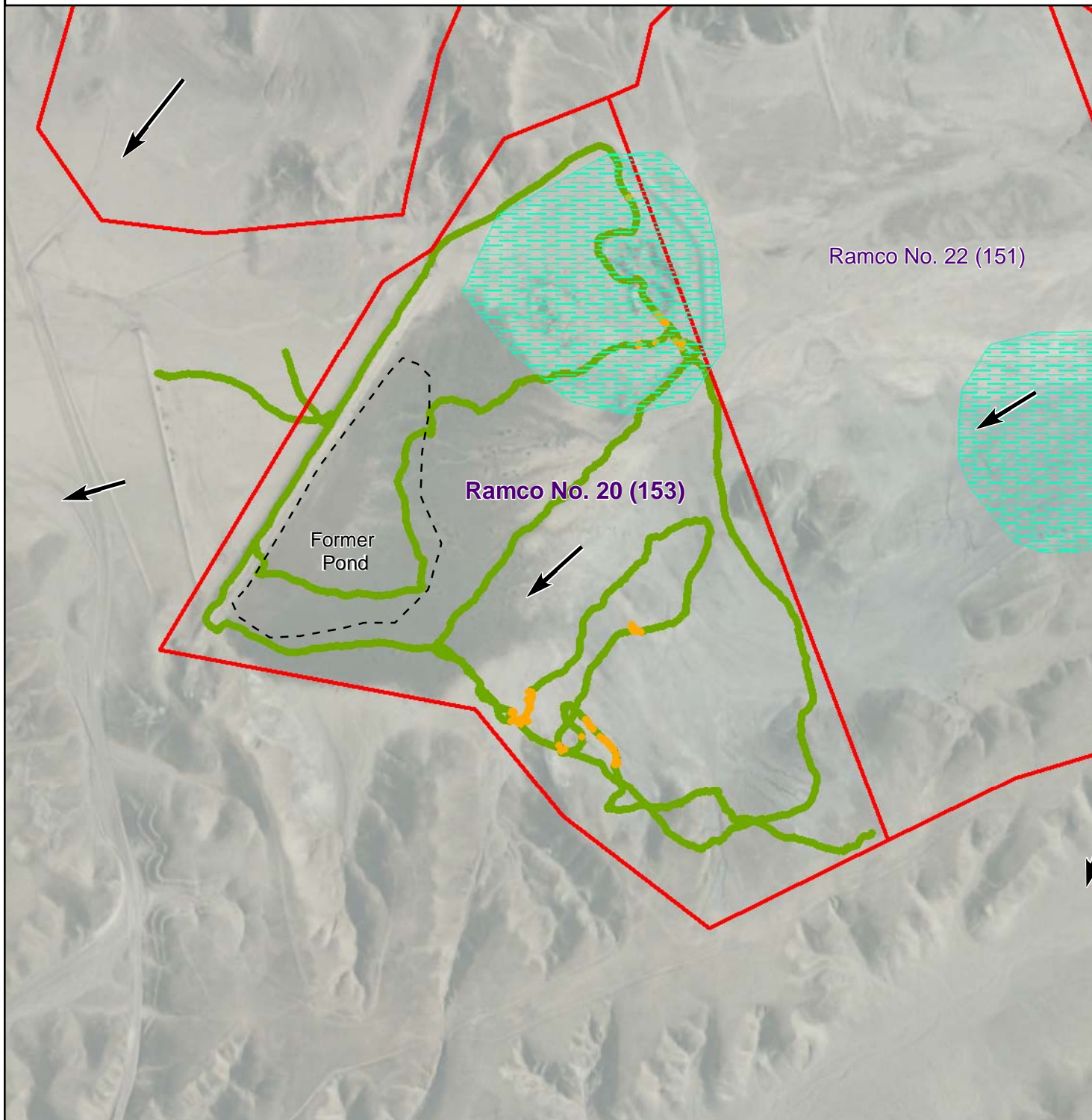
Name: _____

Title or official role (if any): _____

Telephone number: _____

Information provided: _____

**Figure 1 - Gamma Radiation Measurements, Above Two Times Background
Ramco No. 20 (153)
Coalmine Mesa Chapter, Navajo Nation**



Legend

Gamma Radiation Measurements

- < 2X Background
- > 2X Background

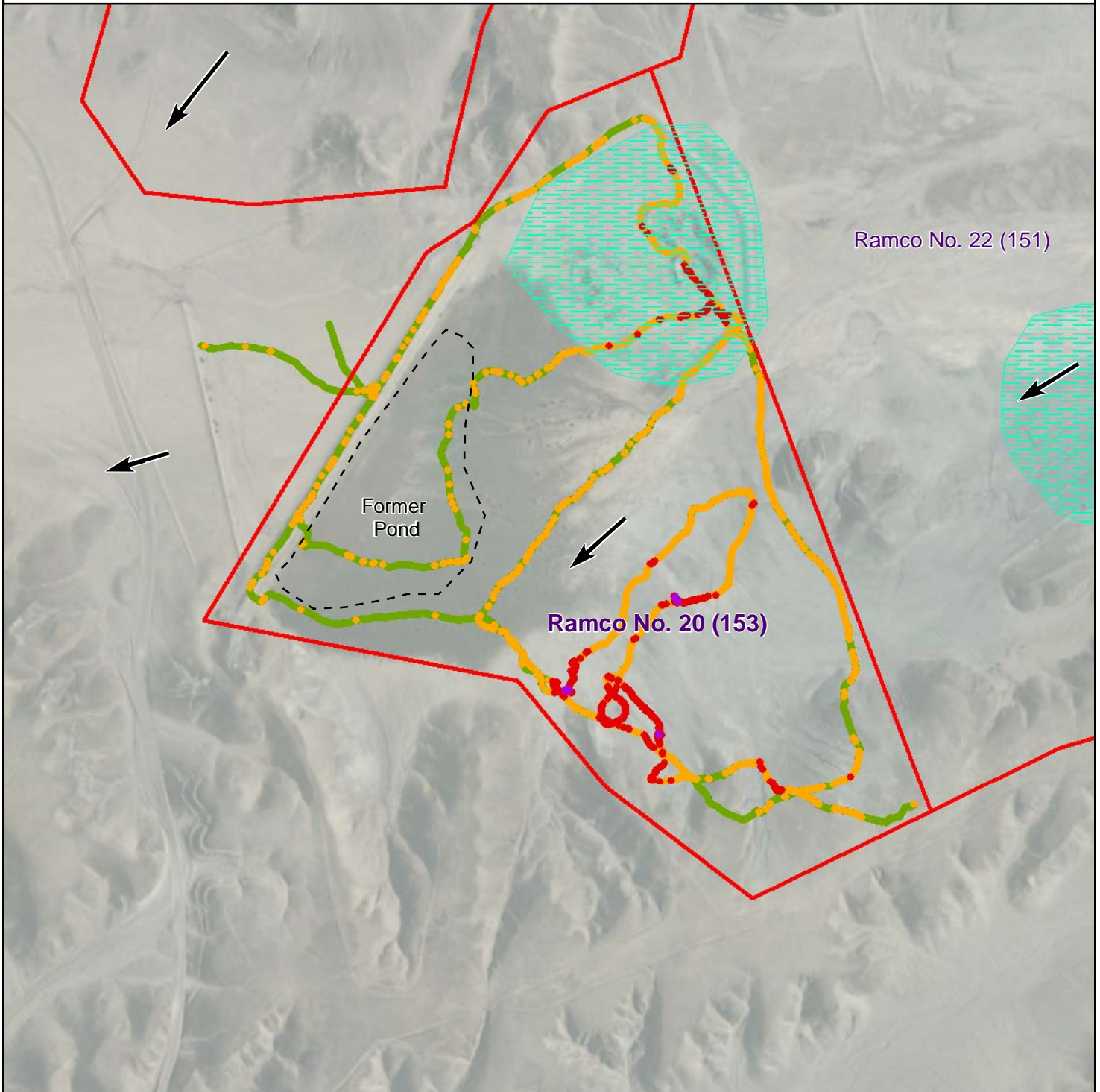
- General Slope Direction
- ▨ Observed Reclamation Area
- ▭ Mine Site Boundary

Gamma survey conducted 11/2010
Measured as counts per minute (cpm)

Average background 12,312 cpm



**Figure 2 - Gamma Radiation Measurements
Ramco No. 20 (153)
Coalmine Mesa Chapter, Navajo Nation**



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000

- General Slope Direction
- ▨ Observed Reclamation Area
- ▭ Mine Site Boundary

**Gamma survey conducted 11/2010
Measured as counts per minute (cpm)**

Average background 12,312 cpm

